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November 20, 2009

Via Hand Delivery

Judi McIntyre Birkitt, Senior Planner
Loudoun County Department of Planning, Land Use Review
1 Harrison Street, S.E.
3rd Floor
Leesburg, Virginia 20177

Re: Green Energy Partners/Stonewall (GEP/S) Hybrid Energy Park
ZMAP 2009-0005/SPEX 2009-0009/CMPT 2009-0001

Dear Ms. Birkitt:

This letter addresses and provides you with a written response to the referral agency comments in the above referenced applications. For your convenience, each of the staff comments are stated below and the Applicant's responses follow in bold italics.

Enclosed with this letter are additional materials that have been updated and/or provided to address concerns or details (20 sets of the following: revised plans, updated air quality report, updated economic impacts report, water flow diagram, FAA Determination of No Hazard to Air Navigation, revised draft Proffer Statement, revised draft Conditions of Approval and photosimulations).

**LOUDOUN COUNTY DEPARTMENT OF PLANNING – COMMUNITY PLANNING
(JOE GORNEY, 10/26/2009)**

OUTSTANDING ISSUES

Open Space

With the exception of approximately 2.3 acres within the Leesburg JLMA, the subject property is located within the Lower Sycolin subarea, which the Plan envisions to have a more rural character with lower densities and greater open space requirements than other Transition Policy Area subareas. The County envisions that development in the Lower Sycolin subarea will maintain a minimum of 70 percent of a site as open space. 70 Percent open space helps provide a visual and spatial transition between the

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suburban development in the east and rural development to the west and helps protect on-site resources.

In the First Referral, staff recommended that the applicant develop a contiguous open space system comprising 70 percent of the site, encompassing and enhancing significant elements of the Green Infrastructure, and forming the predominant visual feature of the landscape.

In the Response to First Referral Comments, the applicant states that tree preservation areas contiguous with the RSCOD and Stream Valley Buffer areas have been added to the plans. The applicant also states that a 50-foot yard around the perimeter of the property will add to the open space. These spaces amount to approximately 26 acres, or 29 percent, open space. Additionally, the future alignment of Cochran Mill Road, not shown on the Concept Plan, would run through the proposed Tree Save and further diminish the proposed amount of open space.

As stated in the First Referral, development of less than 70 percent open space is not in keeping with County policies. The Lower Sycolin subarea is anticipated to have the lowest density of the six Transition Policy Area subareas. In addition to a significantly lower amount of open space than anticipated by County policies, the quality of open spaces does not adequately fulfill the intent of County policies. Staff recommends that the applicant develop a contiguous open space system comprising 70 percent of the site area, encompassing and enhancing significant elements of the Green Infrastructure, and forming the predominant visual feature of the landscape. Priority should be given to natural areas along Sycolin Creek, drainageways, wetlands, steep slopes, moderately steep slopes, forest resources, stream corridors, and other natural areas to protect drinking water resources, along with historic and archaeological resources. Open spaces should be designed to mitigate views from public rights-of-way and buffer neighboring residential properties. The applicant should consider expanding the area of the proposed rezoning to increase the amount of open space and help meet County land use policies.

Applicant Response

The Applicant took into consideration expanding the rezoning and special exception area and determined that it would not be possible. The proposed area was based upon existing parcels and property that is owned by the Applicant or under contract for purchase.

The area in the southwest corner of the Subject Property and the Solar Array Area have been added and provide more contiguous open space area on the Subject Property. The open space areas include the natural areas along Sycolin Creek, wetlands, floodplains, forest resources and archeological sites. The open space

information is shown on Sheet 2 of 4 of the revised plan set. With the substitution of open space for the solar area the site can reach 67.96 percent open space. The quality of the open space areas will be enhanced by replanting of denuded areas, protection of environmental features, habitats, etc. The applicant has proffered to coordinate with the County's Forester to develop plans for these areas.

The closest residential property is located on the north side of Cochran Mill Road approximately 160 feet from the property line of the Subject Property and approximately 1,700 feet from the closest gas turbine. The stream valley of Sycolin Creek, forested areas, topography and the proposed on-site Tree Save Areas provide a natural buffer between Cochran Mill Road and the residential property. The other residential properties are located along Sycolin Road and are separated a minimum distance of 600 feet, and approximately 2,100 feet from the closest gas turbine. The Tree Save Area and the substantial topographic differential of the ridgeline separating the uses will buffer the proposed facilities from the residential properties to the west along Sycolin Road. Additionally, the Quarry Notification Overlay extends to the east across many of these residential properties.

Air Quality

In the First Referral staff recommended that the applicant coordinate with the staff of the Virginia Department of Environmental Quality (DEQ) at the Northern Virginia Regional Office and the Metropolitan Washington Council of Governments (MWCOCG) regarding compliance with the requirements of the Clean Air Act Amendments, the State Implementation Plan, and the air permit review process. The applicant has not provided details regarding coordination with these entities.

Although the applicant has included an Air Quality Report with the Response to First Referral Comments, the applicant has not demonstrated that the air modeling protocols were accomplished to the satisfaction of DEQ. The expectation is that the applicant will commit to the protocols as defined by DEQ.

As stated in the First Referral staff recommends that the applicant coordinate with the DEQ staff at the Northern Virginia Regional Office and the MWCOCG. The applicant should demonstrate that air modeling protocols were accomplished to the satisfaction of DEQ and should commit to these protocols. Any use should be conditioned on the approval of the applicable State and federal permits.

Applicant Response

The Applicant is required by DEQ to meet air modeling protocols and will be meeting with DEQ to determine these protocols. It is understood and

acknowledged that the proposed use will be conditioned on approval of applicable State and Federal Permits. Green Energy Partners/Stonewall, LLC ("GEP/S") has already held an initial meeting with the Northern Virginia Regional Office of DEQ to review the project and get DEQ input on the overall permitting process. A subsequent pre-application meeting is expected to be held in December 2009, with DEQ and perhaps the Federal Land Manager. At that meeting GEP/S will present the proposed air modeling protocols for review and approval by DEQ.

Enclosed is an updated Air Quality Study prepared by MACTEC Engineering and Consulting.

Water Resources

In the First Referral staff recommended several measures regarding water resources, including the following:

- Annotate the 50-foot Management Buffer along the Sycolin Creek floodplain and limit uses to those specified in County policies;
- Address anticipated impacts to local waterways from the construction of two wastewater lines and pumping facilities between the power plant and the Leesburg Wastewater Treatment Plant, which would supply effluent for plant operation;
- Avoid impacts to wetlands and natural drainages and design the project so that the functionality of these features is preserved. Restore degraded wetlands. Mitigate wetlands impacts; and,
- Demonstrate that the most efficient pollutant removal BMPs will be used, that existing drainage patterns and hydrology to wetlands will be maintained, and that low impact development (LID) techniques such as bioretention and sheet flow to vegetated buffer areas will be implemented. Consider various site measures, such as permeable pavers, porous concrete, cisterns, planted swales, curb cuts, rain gardens, and bioretention filters adjacent to impervious areas. Minimize pipe installation.

The applicant responded as follows:

- Depicted a 50-foot Management Buffer on the Concept Plan and indicated that there would be no impacts to these areas;
- Stated that wastewater lines and pumping facilities between the Leesburg Wastewater Treatment Plant and the power plant would adhere to the State Erosion and Sediment Control Handbook;
- Noted the location of wetlands on the Concept Plan and stated that wetlands permits would be secured from the appropriate State and federal agencies and that restoration and mitigation would be prepared in the event of disturbances; and,

- Stated that drainage patterns will be maintained in areas that are not disturbed. The existing pond will be used for stormwater management.

No information was provided regarding the possible alignment of wastewater lines between the Leesburg Wastewater Treatment Plant and the proposed power plant or the expected impacts of the lines to local waterways and other Green Infrastructure resources. The Concept Plan depicts various impacts to wetlands. The applicant has not committed to LID measures.

Staff notes the placement of liquid ammonia and propane tanks adjacent to the pond, perennial stream, and wetlands. The applicant has not specified the water protection and spill containment measures that would be incorporated into the tank areas or committed to their installation. These waterways are especially significant as they are upstream of Wood Turtle habitat. Spill containment is also appropriate for other nonpoint source pollution sources such as heavy equipment and motor vehicles.

Staff recommends that the applicant commit to the following:

- *The preservation and management of the 50-foot Management Buffer, including revegetation of degraded areas*

Applicant Response

A proffer has been added to coordinate with the County's Forester to address the preservation and management of the Resources Management Buffer area.

- *The annotation or description of the general location of wastewater lines between the Leesburg Wastewater Treatment Plant and the power plant with consideration of Green Infrastructure impacts;*

Applicant Response

The location of the wastewater lines between the Leesburg Wastewater Treatment Plant and the Hybrid Energy Park have not been determined; nor has an agreement been established with Leesburg for the use of the wastewater by the Hybrid Energy Park. However, there is a sanitary sewer line that is currently planned for construction by the Town along Cochran Mill Road. When the location of the wastewater lines has been determined by the Town, the Applicant will coordinate with the Town to minimize the impacts to the Green Infrastructure.

- *Avoidance of wetlands;*

Applicant Response

A proffer has been added to protect the wetlands during construction.

- *The incorporation of LID techniques; and,*

Applicant Response

LID techniques will be considered and incorporated during the final design of the Stormwater Management/BMP during site plan review. The Applicant will review the inclusion of a BMP device between the impervious surfaces and Sycolin Creek, during site plan review to best implement water quality protection.

- *The installation and maintenance of water protection and spill containment devices for tank areas and nonpoint source pollution sources.*

Applicant Response

Surface drains in and around areas containing power machinery will be routed to an oil/water separator prior to discharge. Storage tanks and vessels containing any chemicals or lubricants (e.g. aqueous ammonia storage tank, propane storage tank) will be designed to provide 100% spill containment.

Steep and Moderately Steep Slopes

In the First Referral staff recommended that the applicant revise the application and submit a design that respects the integrity of steep and moderately steep areas. For intrusions into moderately steep areas, staff recommended that the applicant explain what special performance standards or treatments are proposed for those areas. Staff recommended that the applicant avoid disturbance of steep slopes.

In response the applicant states that all very steep slopes have been avoided, that intrusion into moderately steep slopes has been minimized to the extent possible, and that the requirements of the Zoning Ordinance will be followed. The applicant has not defined any performance standards or treatments for moderately steep slopes.

Staff recommends that the applicant commit to the avoidance and protection of steep slopes both during construction and power plant operations. Staff also recommends that the applicant specify and commit to the performance standards and treatments proposed for areas of moderately steep slopes.

Applicant Response

The Applicant is required to meet the regulations of the steep slope regulations contained in the Zoning Ordinance. The Very Steep Slopes will be fenced off with orange fencing and/or super silt fencing during construction to protect these slopes.

Plant and Wildlife Habitats

In the First Referral, staff recommended that the applicant verify the location of the Northern Hardpan Basic Oak-Hickory community. Staff also recommended that the

applicant verify whether additional surveys of suitable habitat for rare diabase species were conducted, as recommended by DCR, and coordinate with the VDGIF and the USFWS regarding compliance with protected species legislation. Staff recommended that the Northern Hardpan Basic Oak-Hickory community be preserved, that the applicant identify the community on the plat, and that applicant specify and commit to protection measures. Staff also recommended that the applicant preserve and buffer suitable habitat for the wood turtle, the loggerhead shrike, Henslow's sparrow, and the hairy beardtongue and commit to implementation measures recommended by the applicant's consultant for the wood turtle. Additionally, staff recommended that the applicant incorporate indigenous vegetation into the landscape design and utilize a compact, concentrated development pattern.

In response the applicant states that native species will be used to landscape the property. Additionally the applicant states that no development is proposing in wetlands areas that might impact the wood turtle and that the Gant Lane crossing of Sycolin Creek could use a bottomless culvert or other spanning structure to further protect the wood turtle. It appears that the applicant did not conduct additional surveys of suitable habitat for rare diabase species. The applicant also states that Oak-Hickory Forest resources on the eastern half of the development will be cleared only as necessary to construct the power plant and that resources on the western half of the property will not be in construction areas and will be preserved as depicted on the Concept Plan. The area adjacent to the western stand is to be replanted with native species.

Staff notes that the power plant would eliminate most of the Oak-Hickory Forest community and some areas of the less desirable Virginia Pine. Areas proposed for tree preservation and replanting contain a mixture of various forest types. The proposed alignment of Cochran Mill Road, which is not depicted on the Concept Plan and would cut through the northwest portion of the site, would impact a portion of the proposed Tree Save area. Open areas not impacted by the proposed power plant area, including the southwest and the north-central portions of the site, are not proposed as Tree Save or Replanting areas and are included as buildable areas.

Staff recommends that the applicant verify whether additional surveys of suitable habitat for rare diabase species were conducted and coordinate with State agencies regarding compliance with protected species legislation. Staff recommends that the applicant preserve and buffer suitable habitat for the wood turtle and commit to implementation measures recommended by the applicant's consultant. Staff also recommends that Tree Save and Replanting areas be expanded to include all portions of the property not impacted by the proposed power plant. Staff

recommends that the applicant coordinate with the County Urban Forester regarding appropriate forest management and habitat commitments. Staff recommends that the applicant commit to the best management practices contained within the Forest Management Plan including the transplanting of desirable species and the removal of Virginia pine. Staff further recommends a commitment to a long-term maintenance plan and forestry best management practices, including the removal of invasive species.

Applicant Response

Prior to commencement of any work in the area of the potential wood turtle habitat, the Applicant will perform a search for wood turtles in the area to be affected by construction. Where practicable, construction will be located in areas that do not provide high quality habitat. The Applicant will perform work in the summer/fall, will use bridge spans or bottomless culverts to prevent barriers of migration. Additionally, educational materials will be provided to the contractors working in the area.

A proffer has been added to address these concerns that includes coordination with the County's Forester to develop forest management and habitat commitments prior to site plan approval.

The reforestation area will be extended to the south western quadrant of the site after construction and utilization is complete. Plans for reforestation, replanting and forest management will be coordinated with the County's Forester. The Applicant will utilize best management practices in replanting as coordinated with the County Forester.

Historic Resources

The Concept Plan identifies areas of archaeological and historic resources within the limits of the proposed rezoning. However, the applicant has not committed to the preservation or protection of these resources. Staff's review of these resources will be sent under separate cover.

Community Impacts

In the First Referral staff recommended that all buildings and parking be screened and the development camouflaged behind open space with less intensity adjacent to sensitive uses, such as river and stream corridors and residences. Staff requested additional details to determine whether the proposed use is compatible with the nearby residences, such as plan views, cross-sections, and viewshed perspectives.

In response the applicant has updated the Concept Plan with the general location of utility plant facilities. The applicant calculates a buildable area of approximately 69 acres (approximately 76 percent) of the 91-acre Special Exception Area. Residential

uses lie approximately 1,600 to 1,800 feet to the north and west, respectively, of the proposed power plant turbines. The Concept Plan notes that the turbine stacks would be no higher than the adjacent transmission towers (506.5 feet MSL (Mean Sea Level)), which would allow a stack height of approximately 150 feet. The applicant also provided an exhibit sheet featuring typical elevations, photographs, and drawings of similar power plants. The applicant stated that photo-simulations will be provided demonstrating views of the facility from surrounding areas. The applicant also stated that an application has been filed with the Federal Aviation Administration (FAA) for potential impacts to the Leesburg Executive Airport.

Given the nature and scale of the proposed use, the proximity of residential uses approximately 1,600 to 1,800 feet to the north and west, respectively, the proximity of the Leesburg Executive Airport, the adjacent Phil Bolen Park, and the presence of sensitive environmental features, more information is necessary to discern the impact of the utility plant. Although the general locations of the power plant facilities have been depicted on the plat, no information has been given regarding the disposition of other buildable areas outside of the power plant footprint. Additionally, the applicant has not addressed the planned alignment of Cochran Mill Road, which may traverse a portion of the property.

Staff recommends that the applicant provide further details to determine whether the proposed use is compatible with the nearby residences, the Leesburg Executive Airport, Phil Bolen Park, and on-site resources such as plan views, cross-sections, and 3-dimensional viewshed perspectives. The applicant should provide a copy of the FAA findings and ensure that the power plant does not present a hazard to air navigation. Staff also recommends that the applicant coordinate with the Airport Manager of the Leesburg Executive Airport. The applicant should describe any anticipated compatibility and mitigation measures, such as reforestation, screening, and water protection.

Applicant Response

Photographic simulations are enclosed and show minimal visual impacts. Enclosed are the FAA Determinations of No Hazard to Air Navigation. The Leesburg Executive Airport is under the jurisdiction of the FAA.

Noise Impacts

In the First Referral, staff recommended that a noise analysis be conducted and provided to the County documenting the predicted cumulative noise impact of all on-site activities on the surrounding residential uses and other areas zoned TR-10 and JLMA-20. Staff requested information regarding the location, number, noise levels, testing, and expected use of facilities on the site.

In response the applicant stated that the project would comply with the Zoning Ordinance. The applicant also stated that major noise-producing equipment would be designed with noise attenuating features as necessary to meet these requirements. The applicant did not commit to a noise study.

Staff notes that the requested noise information would help determine whether a rezoning, special exception, and commission permit for a power plant are appropriate for this portion of the Lower Sycolin subarea. The impact of the power plant on the nearby residences and the adjacent Phil Bolen Park is unclear. Staff notes that a similar combined cycle power plant in Fluvanna County, Virginia was limited to 60 dBA at all property lines and 50 dBA at nearby residences in an effort to ensure compatibility with surrounding uses. Such levels would be reasonable and appropriate for the proposed power plant.

As stated in the First Referral staff recommends that a noise analysis be conducted and provided to the County documenting the predicted cumulative noise impact of all on-site activities on the surrounding residential uses and other areas zoned TR-10 and JLMA-20. Staff requests information regarding noise generation for each of the on-site facilities. Staff recommends that the applicant specify the anticipated noise mitigation measures. Staff recommends that sound walls enclose all turbines and that silencers be installed for all safety valves. Staff recommends that the applicant commit to noise levels no greater than 60 dBA at all property lines and 50 dBA at nearby residences and park property.

Applicant Response

The Hybrid Energy Park facilities will comply with all applicable noise standards. Major noise producing equipment such as the combustion and steam turbines will utilize noise attenuating materials specifically designed to protect plant personnel and nearby areas. Exhaust stacks and similar equipment will be designed with noise attenuating silencers, baffles and shielding. Safety relief valves, which will operate very infrequently and only during upset conditions, will be equipped with silencers. The Applicant will agree to a condition of approval to conduct a noise study after the equipment selection and final plant design are completed, and noise testing after construction and commissioning of the facilities.

Lighting & Signage

In the First Referral staff recommended that the applicant commit to lighting that is fully shielded, provides a glare-free environment, is confined to the site, and is turned off after business hours, unless required for safety or security purposes, and that illumination levels be no greater than necessary for a light's intended purpose. Staff

recommended that the applicant provide information regarding the lighting to be used for smokestacks, catwalks, heat recovery units, turbines, and all buildings.

In response the applicant stated that the power plant would comply with the requirements of the Zoning Ordinance and that exterior lighting would be directed downward and inward to the extent feasible.

Lighting and signage are especially important given the project's proximity to residences and Phil Bolen Park. Staff anticipates that the power plant would incorporate lighting to meet safety requirements while still being downward-directed and fully shielded.

As stated in the First Referral, staff notes that directional and interpretive signage within the site could alert people to the presence of sensitive natural features and historical resources. A small sign along Cochran Mill with the power plant name and address would also be appropriate. The applicant did not specifically address directional or interpretive signage other than to say that signage would comply with the Zoning Ordinance.

Staff recommends that the applicant commit to lighting that is fully shielded, provides a glare-free environment, is confined to the site, and is turned off when not needed, unless required for safety or security purposes, and that illumination levels will be no greater than necessary for a light's intended purpose. All lighting should be mounted as low as practicable and preclude light trespass onto adjoining properties, glare to passersby, skyglow, and deterioration of the nighttime environment. Staff recommends that the applicant provide information regarding the lighting to be used for smokestacks, cooling towers, catwalks, heat recovery units, turbines, and all buildings. Staff also recommends directional and interpretive signage to alert people to the presence of sensitive natural features and historical resources. The plant entrance sign should be limited to a small sign with the plant name and address. Any sign lighting should be downward-directed.

Applicant Response

The enclosed draft Proffer Statement includes a proffer for the lighting to be directed downward and inward, full cut off and fully shielded and to be turned off when not needed unless required for safety or security purposes. The FAA has made a "Determination of No Hazard to Air Navigation", and will not require exhaust stack marking or lighting.

The Hybrid Energy Park is a secure facility and visitors will be accompanied at all times and therefore, onsite signage will be minimal.

COMMISSION PERMIT

In accordance with the Revised 1993 Zoning Ordinance, a Commission Permit is required when a public utility or public service facility is constructed to determine if the general location, character, and extent of the proposed use are in substantial accord with the Comprehensive Plan.

Staff is unable to recommend approval of a Commission Permit for the proposed use until outstanding issues are resolved, most significantly the amount of open space.

Applicant Response

Acknowledged.

RECOMMENDATION

Staff finds that the proposed use is not anticipated under the land use policies of the County Comprehensive Plan but that the use may be reasonable given the presence of two interstate natural gas lines, two interstate electrical transmission lines, and proximity to energy-intensive industries, such as technology-related companies. However, staff cannot support the application given the outstanding issues related to open space, air quality, water resources, steep and moderately steep slopes, plant and wildlife habitat, historic resources, community impacts, noise impacts, and lighting and signage. Some of these environmental issues could be addressed if seventy percent of the site were retained as open space, as envisioned under County land use policies.

LOUDOUN COUNTY DEPARTMENT OF BUILDING & DEVELOPMENT – ZONING ADMINISTRATION (AMY LOHR, 11/4/2009)

A. CRITICAL ISSUES

1. **Section 3-1002, Size and Location.** The minimum district size for a new MR-HI district is 600 acres. Contiguous additions of not less than 10 acres are allowed when approved pursuant to Section 6-1200. The proposed district is 90.5 acres and is not currently contiguous to an existing MR-HI zone. Therefore, the proposal does not currently meet Section 3-1002. An active rezoning application (ZMAP 2009-0003, Luck Stone Quarry) abuts the subject ZMAP and proposes rezoning to the MR-HI district. If ZMAP 2009-0003 is approved, this application could be considered a contiguous addition to ZMAP 2009-0003. At this time, the subject rezoning is contingent upon the approval of ZMAP 2009-0003.

Applicant Response

Acknowledged.

2. **Section 3-1005, Yards.** No structure or use shall be located within 50 feet of any property line. The 50-foot yard is not correctly depicted in the plan set. First, in the northwest corner of the site on parcel 60/38, the yard line is labeled as 50 feet, but measures less than 50 feet in some areas. Second, along the northeast corner of the site on parcel 61/12, a yard is labeled as 50 feet, but measures more than 50 feet from Gant Lane. Further, in the northeast corner of this parcel, a 50-foot yard should be shown from the property line, abutting parcels 60/12 and 61/10. Third, in relation to Gant Lane, the plat shows a varying property line for parcel 61/12, which in some areas is within Gant Lane. This is not consistent with County Records, which show no portion of parcel 61/12 within Gant Lane. Ensure that all property lines are accurately depicted on all sheets in the plan set. Finally, to meet this section, the applicant will need to consolidate the parcels to eliminate the internal lot lines. While this is noted on sheet 4, staff suggests this be made a condition of approval for the special exception.

Applicant Response

The property lines for the parcels are based upon a survey prepared by Urban Engineering, Ltd. as more particularly noted on Sheet 2 of 4 of the plan set. The Applicant will agree to a condition of approval to consolidate the parcels prior to site plan approval.

The yards have been corrected and are shown from the future right-of-way of Gant Lane or the Subject Property perimeter.

3. **Section 3-1006(B), Building Height.** The maximum height for all buildings is 40 feet. Per sheet 4, the proposed cooling tower, combustion turbines, steam turbine and water treatment system and tanks all exceed the maximum height. Upon review of the typical plant layouts on sheet 5, these uses do not appear to be exempt under Section 1-103(D)(2), especially in the case of the enclosed facility. Unless the applicant can provide additional information to demonstrate that all structures are exempted by Section 1-103(D)(2), staff recommends the applicant seek rezoning to the PD-GI district, wherein building heights can be modified pursuant to Section 6-1504.

Applicant Response

There are only two proposed buildings, the Administration Building and the Guard House/Visitor Center Building. The proposed cooling tower, combustion turbines, steam turbine and water treatment system and tanks are equipment and not buildings.. The proposed heights of all of the facilities, buildings and equipment have been revised to remove the +/- and are shown on Sheet 4 of 4 of the plan set. The facilities will utilize acoustical materials to control noise levels. These facilities may be designed with weather protection and sound attenuation similar to ready-mix concrete facilities that are permitted by special exception in the MR-HI Zoning District.

B. OTHER ISSUES

1. **Section 6-1211(E)(1)** - *Whether the proposed zoning district classification is consistent with the Comprehensive Plan.* The majority of the site (97%) is planned for transition land use, with very minimal acreages planned for business and keynote employment land uses. Zoning staff defers to Community Planning for comment on consistency with the Revised General Plan.

Applicant Response
Acknowledged.

2. **Section 6-1211(E)(2)** - *Whether there are any changed or changing conditions in the area affected that make the proposed rezoning appropriate.* The rezoning is not permitted or appropriate until contiguous land is zoned MR-HI.

Applicant Response

The proposed rezoning to MR-HI for the Hybrid Energy Park is appropriate and compatible with the proposed rezonings to MR-HI on the adjacent properties to the east. The expansion and proposed rezoning of the Luck Stone Quarry properties and the Loudoun Waters proposed water treatment plant to the east and southeast of the Subject Property have changed the land use conditions of the area.

The existing conditions on the Subject Property, consisting of the gas lines and high voltage transmission lines make the proposed rezoning appropriate for the Hybrid Energy Park.

3. **Section 6-1211(E)(3)** - *Whether the range of uses in the proposed zoning district classification are compatible with the uses permitted on other property in the immediate vicinity.* The range of uses permitted in the MR-HI district is generally not compatible with the uses permitted in the surrounding TR-10 district.

Applicant Response

The proposed Hybrid Energy Park industrial use is compatible with the other industrial uses such as the Luck Stone quarry and the proposed Loudoun Water water treatment plant on the property in the immediate vicinity to the east. Additionally, the Hybrid Energy Park is compatible with the two high pressure interstate natural gas lines, two interstate high voltage transmission towers, the Quarry Notification Overlay District and the Airport Noise Overlay District.

4. **Section 6-1211(E)(4)** - *Whether adequate utility, sewer and water, transportation, school and other facilities exist or can be provided to serve the uses that would be permitted on the property if it were rezoned.* Staff defers to

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the Town of Leesburg, Loudoun Water, VDOT, and the Office of Transportation Services on these issues.

Applicant Response

Acknowledged.

5. **Section 6-1211(E)(6) - *The effect of uses allowed by the proposed rezoning on the structural capacity of the soils.*** According to County Records, hydric soils (types 6A, 66A, 69A, and 79A) are present in the rezoning area and the applicant has identified wetland areas. These hydric soils have a very poor potential for general development of central water and sewer. Development of the site should consider these areas with respect to grading and the construction of buildings and infrastructure.

Applicant Response

Acknowledged. *The final design for the Hybrid Energy Park will respect these areas. Construction of structures will be based upon the geotechnical evaluation and recommendations to construct necessary foundations.*

6. **Section 6-1211(E)(8) - *Whether a reasonably viable economic use of the subject property exists under the current zoning.*** The majority of the site is currently zoned TR-10, a zoning district which is intended, among other goals, to provide for an environment that is low density in character to facilitate a transition between the suburban and rural areas of the County. The TR-10 zone not only includes residential uses, but also agricultural, public and institutional, commercial, and industrial uses. Staff maintains that the TR-10 zoning offers a reasonably viable economic use of the property at the intensity prescribed by both the Zoning Ordinance and Revised General Plan.

Applicant Response

The Subject Property is predominantly zoned TR-10 and permits predominantly residential uses which are not economically viable, compatible or desired uses due to the proximity of the quarry uses, the proposed Loudoun Water treatment facility, the noise contours of the Leesburg Airport, the 500 KV and two 230 KV high voltage transmission lines and the two natural gas transmission lines. Residential uses will have greater impacts on the roads, County services and public schools. Soils are marginal and not suited for a sustainable agricultural use.

7. **Section 6-1211(E)(9) - *The effect of the proposed rezoning on the environment or natural features, wildlife habitat, vegetation, water quality and air quality.*** Sheet 4 includes a "tree save and replanting area ($\pm 516,000$ SF)" and proffer 8. provides for preservation of healthy trees within the area, except for stormwater management and utilities. Staff urges further coordination with the County Urban Forester on proffer 8. to ensure the tree save and replanting area language is

suitable. Staff defers to the Environmental Review Team (ERT) for further comment on the impact to the environment or natural features, wildlife habitat, vegetation, water quality and air quality.

Applicant Response
Acknowledged.

8. **Section 6-1211(E)(10)** - *Whether the proposed rezoning encourages economic development activities in areas designated by the Comprehensive Plan and provides desirable employment and enlarges the tax base. The proposed rezoning is not in an area designated for industrial development.*

Applicant Response

The Hybrid Energy Park will provide a clean, reliable and renewable source of electrical power that is critical and necessary for high tech and data center reliability and will help attract data center uses further diversifying Loudoun County's economic base.

Preliminary estimates of the total cost of the facility are \$829,000,000 and will provide an economic engine for Loudoun County, in construction, jobs, tax revenues and a reliable source of Green energy. The total annual economic impact (direct, indirect, an induced) of the ongoing operation of the plant in Loudoun County is estimated to be \$23,000.000 (measured in 2014 dollars) and can support 54 jobs. In terms of direct impact, the on-going operation of the generating station is estimated to have annual gross revenues of \$18,400,000 while employing 25 workers.

An updated economic impact report is enclosed "The Economic and Federal Benefit of a Proposed Energy Generating Plant in Loudoun County, Virginia" dated November 12, 2009, prepared by ChmuraEconomics&Analytics.

9. **Section 6-1211(E)(13)** - *Whether the proposed rezoning encourages the conservation of properties and their values and the encouragement of the most appropriate use of land throughout the County. See comments B.1. and B.8. above.*

Applicant Response
Acknowledged.

10. **Section 6-1211(E)(14)** - *Whether the proposed rezoning considers trends of growth or changes, employment, and economic factors, the need for housing, probable future economic and population growth of the county and the capacity of existing and/or planned public facilities and infrastructure. While Luck Stone Corporation owns abutting properties, the surrounding land use has not changed. The properties remain zoned TR-10 and are not approved for stone quarrying.*

Applicant Response

The land uses have changed in the area with the Luck Stone purchase of additional property adjacent to the existing quarry and Loudoun Water's proposed water treatment facility. The proposed Hybrid Energy Park is complimentary to the quarry and water treatment facility uses.

Electricity is an important part of the public infrastructure and is an integral part of life and electric system reliability is indispensable to support residential, commercial, industrial and governmental functions. Lack of reliable electricity is not just an inconvenience, but it creates an economic loss. Loudoun County has become one of the prime locations for internet related companies. These internet related companies include numerous data centers that create high value tax revenues with few employees. With Loudoun County's foresight the issue of electrical self sufficiency and security in the future would allow for the continuation of the expansion of these high value tax paying companies to locate within Loudoun County.

The Hybrid Energy Park will diversify the economic base in Loudoun County and it will provide Loudoun County with substantial tax revenues and generate electricity for the region. Redundant and reliable source of electrical power is critical and necessary for high tech and data center reliability. Northern Virginia and Loudoun County are leaders in the high technology industry and are facing escalating reliability problems with electrical power generation and transmission which has resulted in threats of rolling blackouts, appeals for voluntary curtailment by consumers, and proposals to construct numerous transmission lines throughout Loudoun County. Resolving electricity reliability problems in a crisis atmosphere undermines customer confidence and the health, safety and welfare of the community and is almost always unnecessarily expensive with cost frequently driven by areas other than the appropriate fuel and technology

11. **Section 6-1211(E)(16) - The effect of the rezoning on natural, scenic, archaeological, or historic features of significant importance.** Staff defers to the ERT and Community Planning for comment on the impact to natural, scenic, archaeological, or historic features.

Applicant Response

Acknowledged.

12. **Section 6-1310(A) - Whether the proposed special exception is consistent with the Comprehensive Plan.** See comment B.1. above.

Applicant Response

Acknowledged.

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13. **Section 6-1310(C) - Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.** The statement of justification (p. viii) indicates that noise emanating from the Hybrid Energy Park will meet the requirements of the Zoning Ordinance. Staff questions the anticipated noise level at the MR-HI district boundary, given the use of combustion and steam turbines. Staff suggests that specific noise attenuation measures be developed and evaluated during the special exception process so that effective conditions can be applied to the site to avoid negative impacts to adjacent uses.

Applicant Response

The Hybrid Energy Park facilities will comply with all applicable noise standards. Major noise producing equipment such as the combustion turbines and steam turbine will utilize noise attenuating materials specifically designed to protect plant personnel and nearby areas. Exhaust stacks and similar equipment will be designed with noise attenuating silencers, baffles and shielding. Safety relief valves, which will operate very infrequently and only during upset conditions, will be equipped with silencers. The Applicant will agree to a condition of approval to conduct a noise study after the equipment selection and final plant design are completed, and noise testing after construction and commissioning of the facilities. The proposed use will not negatively impact the uses in the immediate area.

14. **Section 6-1310(D) - Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area.** Given the 75 and 100-foot heights proposed, staff questions how visible light will be from adjacent properties. Per Section 6-1504, lighting for the site shall not cause illumination in excess of 0.25 foot candles above background light levels, measured at the boundary of the industrial use and the abutting residential use and/or residential district. The applicant will need to demonstrate compliance with the light and glare standards of the Ordinance at the time of site plan.

Applicant Response

Acknowledged. The enclosed draft Proffer Statement includes a proffer for the lighting to be directed downward and inward, full cut off and fully shielded and to be turned off when not needed unless required for safety or security purposes. The FAA has made a "Determination of No Hazard to Air Navigation", and will not require exhaust stack marking or lighting.

15. **Section 6-1310(E) - Whether the proposed use is compatible with other existing or proposed uses in the neighborhood, and adjacent parcels.** Adjacent parcels to the west contain residential uses and the planned Phillip A. Bolen Memorial Park

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will be located north of the site, across Cochran Mill Road. The proposed use is generally not compatible with these existing and proposed uses in the area.

Applicant Response

The parcels to the west containing residential uses are a minimum of 1,200 feet from the proposed facilities in the Hybrid Energy Park and will be buffered topography and Tree Save Areas. Philip A. Bolen Memorial Park and its uses to the north are not incompatible with the Hybrid Energy Park. Additionally, the Quarry Notification Overlay District and the airport noise contours of 60 Ldn will expand when the proposed quarry uses are approved and the Leesburg Executive Airport runways are extended. Crosstrail Boulevard, a six-lane road will be bisecting the Park.

16. **Section 6-1310(F)** - *Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.* The statement of justification (p. ix) indicates that the topography of the area make the Hybrid Energy Park less visible from the surrounding area. Given the 75 and 100-foot heights proposed, it would seem that the use will be visible from surrounding parcels, despite the buffering and screening proposed. Staff suggests the applicant provide photo simulations depicting the Hybrid Energy Park from surrounding parcels to demonstrate the degree of buffering and screening.

Applicant Response

Photographic simulations are enclosed that demonstrate minimal visual impacts. The Applicant floated balloons (on two occasions) over the site at the proposed height of the exhaust stacks represented in these photographic simulations, the balloons could not be seen from the adjacent properties due to forest cover and topography, The County was notified on each occasion of the balloon float.

17. **Section 6-1310(H)** - *Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.* Staff recommends further review of air quality issues with the Department of Environmental Quality and the ERT. Also see comment B.7. above regarding vegetation.

Applicant Response

Acknowledged.

18. **Section 6-1310(L)** - *Whether the proposed special exception will be served adequately by essential public facilities and services.* The statement of justification simply states that the use will be adequately served. The applicant needs to expand the response to this consideration and provide greater detail how the proposed use will be served by essential public facilities and services.

Applicant Response

The Subject Property is within the Loudoun Water service area for the provision of water and sewer service, in accordance with the Loudoun Water referral the Subject Property can be served from the extension of existing facilities. The proposed uses do not require public facilities and services such as schools, parks, libraries, etc.

19. **Section 6-1310(N) - Whether the proposed use will affect the structural capacity of the soils.**

See comment B.5. above.

Applicant Response

Acknowledged.

20. **Section 6-1310(P) - Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.** See comment B.8. above.

Applicant Response

Acknowledged.

21. **Section 3-1001, Purpose.** Per the district purpose, the MR-HI zone is established, in part, to collocate quarries with compatible heavy industrial uses. The area of the proposed rezoning is within the existing Quarry Notification (QN) Overlay District and is adjacent to a proposed rezoning/special exception (ZMAP 2009-0003/SPEX 2009-0027) to expand the Luck Stone quarry. However, at the present time, the proposed MR-HI zone is generally not compatible with the surrounding JLMA-20 and TR-10 zones. Should ZMAP 2009-0003/SPEX 2009-0027 be approved, the use of this property for heavy industrial uses would be more consistent with the district purpose. The appropriateness of the proposed rezoning relies heavily upon the proposed zoning and land use of the adjacent Luck Stone properties. Also see comment A.1. above.

Applicant Response

Acknowledged.

22. **Section 3-1002, Size and Location.** The MR-HI district is to be established in areas contemplated as appropriate for resource extraction use in the Comprehensive Plan. The majority of the site is planned for transition land use. Zoning staff defers to Community Planning for further comment regarding consistency with the Revised General Plan.

Applicant Response

Acknowledged.

23. **Section 3-1006(B), Building Height.** In the key on sheet 4 and in the drawings, building heights are noted as “±” and “Approx.” Therefore, it is not clear how much the actual height could vary from the figures indicated. In addition, heights are not indicated for every component listed in the key. Indicate a maximum height for each structure listed and delete the “±” and “Approx.” notations from the key and drawings. In addition, the noted height for the guard house/secured entrance is “40’ approx. height.” Staff questions why this structure would be so tall. Review the stated height for accuracy. Finally, a note on sheet 4 states: “*Stack heights proposed not to exceed elevation of transmission towers (elevation 506.5).” This is confusing as no “stacks” are listed in the key. Clarify what stack heights are being referenced. Additionally, if the note is referencing existing elevation, it would seem simpler to note the height of the stack. Please revise/clarify all these matters.

Applicant Response

The approximate (+/-) heights have been removed and the maximum heights proposed for all facilities are shown on Sheet 4 of 4 of the revised plan set. The guard house/visitor center building height has been revised to a maximum height of 20 feet. The exhaust stacks are clearly labeled and the heights have been revised to a maximum of 140 feet.

24. **Section 3-1007(D), Utility Requirements.** All utility distribution lines shall be placed underground. Please provide a note to this effect on sheet 2.

Applicant Response

As requested, Note 14 has been added under the Notes: Concept Plan on Sheet 2 of 4 of the revised plan.

25. **Section 1-103(D), Exemptions (2).** The height limitations of the Ordinance do not apply to water storage tanks. However, the tank shall be located no less than the distance of its height from all lot lines. Water Storage Tanks 1 and 2 are approximately 75 feet tall, but are within 50 feet of a lot line. Additionally, a tank of 100 feet in height is closer than 100 feet to a property line (#18). These tanks need to be relocated, so that they are at least the distance of their height from all lot lines.

Applicant Response

The heights for the Water Storage Tanks 1 and 2 have been revised to a maximum of 65 feet and these Tanks are more than 65 feet from the lot line. The label for the equipment at 18 has been corrected to Cooling Tower and ZLD Water Treatment.

26. **Section 4-1500, Floodplain Overlay District.** Road crossings are permitted in the major floodplain, subject to Section 4-1508, Alterations. Improvements to Gant Lane will likely require a floodplain alteration. Staff also notes that adherence to the “50-foot Rivers and Stream Corridor Resources Management

Buffer" should be proffered, as the Zoning Ordinance does not contain this requirement.

Applicant Response

A proffer has been added to address the 50-foot Rivers and Stream Corridor Resources Management Buffer.

27. **Section 5-616, Utility Substations.** All utility substations shall be located in areas consistent with the adopted Comprehensive Plan.

Applicant Response

A utility substation is not being proposed with these applications.

28. **Section 5-621, Public Utilities.** The utility generating plant shall meet the requirements of Section 5-621. In the zoning requirements table on sheet 2, under landscaping requirements, also reference Section 5-621.

Applicant Response

As requested Section 5-621 has been added to the zoning requirements table on Sheet 2 of 4 of the revised plan set.

29. **5-1407(A), Location.** Buffer yards shall be located along the perimeter of a lot or parcel. Where a parcel extends into the center line of an existing road. The buffer yard shall begin at and extend inward from the ultimate right-of-way line of said road. Ensure that the buffer yard abutting Gant Lane is shown in accordance with this section.

Applicant Response

The Buffer Yards have been revised and corrected as requested and are shown on Sheet 4 of 4 of the revised plan set.

30. **Section 5-1508, Steep Slope Standards.** Development on moderately steep slope areas is subject Section 5-1508(F). Update note 3 on sheet 2 to indicate compliance with Section 5-1508.

Applicant Response

Note 3 on Sheet 2 of 4 has been updated as requested.

31. **Section 6-1313, Period of Validity.** The Ordinance specifies a period of validity of 5 years from the date of special exception approval. Given the additional State and Federal approvals required, staff suggests a longer period of validity be considered as part of this special exception application.

Applicant Response

As recommended, the Applicant requests that the period of validity be extended to ten years from the date of approval of the special exception as part of the special exception approval.

C. PROFFER STATEMENT AND CONDITIONS OF APPROVAL

The following comments are provided for the draft proffer statement dated August 20, 2009:

1. In the first paragraph, line 13, please change the word "Industrial" to "Industry" to be consistent with the Zoning Ordinance.

Applicant Response

The correction has been made as requested.

2. In proffer 1., line 2, staff suggests the phrase "Concept Development Plan" be changed to "Concept Plan" or "Rezoning Plat" to be consistent with the plan set.

Applicant Response

The correction has been made as requested.

3. In proffer 1., line 5, please insert quotation marks following "2009-0001," to denote the end of the plat title. (Quotation marks are used in line 2 at the beginning of the plat title).

Applicant Response

The correction has been made as requested.

4. In proffer 1., line 6, staff suggests inserting a comma following "2009".

Applicant Response

The correction has been made as requested.

5. In proffer 1., line 12, delete the words "as amended." Amendments to the MR-HI Zoning District are not permitted.

Applicant Response

For clarification, "as amended", refers to Zoning Ordinance amendments by the County and not modifications of the Zoning Ordinance.

6. In proffer 1., line 13, staff suggests "utility generating plant or transmission facility" be changed to "utility generating plant and transmission facility." This would be consistent with the statement of justification (p. 1) and proffer 6.

Applicant Response

The correction has been made as requested.

7. In regard to proffer 2., the first sentence indicates that the property *may* be served by public water and sanitary sewer. However, the Health Department has not evaluated the project for on-site well and/or septic because the applicant

indicated use of public water and sewer. Therefore, it would seem that public water and sewer should be proffered. Otherwise, information should be provided to the Health Department so that the project can be evaluated for on-site services.

Applicant Response

Proffer 2 has been revised to state that the property will be served by public water and sewer.

8. In regard to proffer 5., staff suggests the ultimate 50-foot right-of-way be shown on the Concept Plan.

Applicant Response

The ultimate right-of-way for Gant Lane has been added to the Concept Plan as requested. .

9. In further regard to proffer 5., staff suggests a commitment to dedicate right-of-way necessary for future Cochran Mill Road, when requested by the County, and that the planned alignment be shown on the Concept Plan.

Applicant Response

The proposed alignment for Cochran Mill Road as currently shown in the Revised Countywide Transportation Plan is not shown on the Concept Plan, as the adjacent land uses are changing and a four-lane section of Cochran Mill Road is no longer needed. To the north of Cochran Mill Road, Crosstrail Boulevard, a six-lane road is planned and when constructed will accommodate the anticipated traffic between Route 7 and Sycolin Road.

10. In regard to proffer 8., the "Tree Save Area" shown on the Concept Plan is labeled "±573,000" square feet. However, this area measures approximately 68,000 square feet. Please revise the figures on sheet 4 accordingly. Also, a symbol for the tree save areas should be included in the legend.

Applicant Response

The correction has been made and a symbol has been added to the Legend as requested. The proffers have also been revised to be consistent with the Concept Plan.

11. In regard to proffer 10., staff notes that the lighting specifications of this paragraph would apply to any use developed on the property, not just the requested special exception use. Nonetheless, all lighting will need to conform to the Zoning Ordinance and FSM. Therefore, the phrase "unless otherwise required for security and safety" should be deleted or revised, so that it is clear that Zoning Ordinance and FSM requirements will be met.

Applicant Response

As requested, the phrase "unless otherwise required for security and safety" has been deleted.

12. Proffer 12. seems to relate directly to the special exception use and is repeated in Condition 4. Therefore, staff suggests deleting proffer 12.

Applicant Response

Since the special exception and rezoning are integrally tied together, the Applicant has deleted Condition 4.

13. Staff suggests the inclusion of a proffer addressing treatment/preservation of the archaeological sites.

Applicant Response

A proffer has been added to address the protection of these sites.

The following comments are provided for the draft conditions of approval dated August 20, 2009:

14. In condition 2., beginning in line 1, it is unclear who or what is meant by the phrase, "or their designated representatives that meet state and federal security requirements." Staff suggests this be clarified.

Applicant Response

Designated representatives would be appointed by the Loudoun County Board of Supervisors. The phrase "that meet state and federal security requirements" has been deleted. Since the facilities will be regulated as a secure facility, representatives may be required to meet state and federal security clearances for this type of facility.

15. In condition 2., line 3, rather than the phrase "reasonable time" staff suggests a specific time of notice be specified.

Applicant Response

The words phrase (during normal hours of operation) has been inserted after reasonable time. At this time, the normal hours of operation have not been determined.

16. In condition 4., line 3, staff suggests a specific County agency be named in the approval of the Emergency Preparedness Plan.

Applicant Response

The County Department of Fire, Rescue and Emergency Services has been added to this condition, as requested.

17. In condition 4, line 3, staff suggests the word "reasonably" be removed, as this

term is rather subjective.

Applicant Response

The revision has been made as requested.

18. In condition 4., line 5, staff suggests "issuance of the first occupancy permit" be changed to "first site plan approval."

Applicant Response

The change has been made as requested.

19. Condition 6. mirrors Ordinance requirements. Therefore, staff suggests it be removed. If standards more stringent than the Ordinance are proposed, they should be included as conditions.

Applicant Response

This condition has been deleted, as suggested.

20. Condition 9. seems to be in conflict with Chapter 654 of the Codified Ordinance of Loudoun County, which prohibits unreasonable noise. Further, it is unclear why construction would be taking place on site during these hours and why the noise level specified is higher than allowed during the day. 70 dBA at night is not acceptable. Staff suggests this condition be deleted, or otherwise revised.

Applicant Response

This condition has been deleted, as suggested.

21. In condition 11., line 2, please insert the word "Services" following "Transportation."

Applicant Response

The word "Services" has been added as requested.

22. In further regard to condition 11., it would seem that VDOT should also review any traffic management plan related to Gant Lane since this is a VDOT road. VDOT would approve all construction entrances and access roads from Gant Lane during the site plan process, not the Loudoun County Office of Transportation Services.

Applicant Response

This condition has been revised to include VDOT, as suggested.

D. PLAT NOTES/MISCELLANEOUS

1. The County is considering amendments to adopt a Chesapeake Bay Preservation Ordinance. Please be advised that the subject site may be impacted by these amendments.

Applicant Response
Acknowledged.

A "Typical Details and Illustratives Exhibit" (sheet 1 of 1) is attached to the plan set. Staff urges the applicant to commit to either the enclosed or non-enclosed facility, so that the project can be evaluated from that standpoint.

Applicant Response

Until the final equipment is selected and the noise levels determined, the Applicant cannot commit to an enclosed or non-enclosed facility. Numerous factors dictate the type of facilities, including climate, noise attenuation and appearance. The Applicant cannot commit to the specific design and understands Staff's concerns with regard to the building height limitations, as a requirement of the Zoning Ordinance.

2. On sheet 2, several of the notes make reference to a "zoning tabulations table" but no such table appears on sheet 2. Revise the notes accordingly.

Applicant Response

The Zoning Tabulations Table has been labeled on Sheet 2 of 4.

3. On sheet 2, in note 3 of the Concept Plan notes, there is a grammatical error. Please revise.

Applicant Response

The grammatical error has been corrected.

4. On sheet 2, ensure that the "Rezoning Plat" accurately reflects the property boundaries. As shown, the boundaries are not consistent with County Records. In addition, the rezoning plat should be provided at a larger scale for mapping purposes.

Applicant Response

The Rezoning Plat is accurate and based upon a field survey preformed by Urban Engineering in January of 2005. Upon request by the County, the Applicant can provide the Rezoning Plat at a larger scale for mapping purposes.

5. On sheet 2, in the "Overall MR-HI Site Density Tabulation," change the column "Net Area for Averaging FAR" to "Net Area." There is no FAR averaging in the MR-HI district.

Applicant Response

The correction has been made as requested.

6. On sheet 2, in the "Overall MR-HI Site Density Tabulation," delete the word "office" from all columns. Office is not a permitted principal use in the district.

Applicant Response

The correction has been made as requested.

7. On sheet 2, in the "Overall MR-HI Site Density Tabulation," the figure of 3,564,514.8 is not correct. It should be 2,672,406.

Applicant Response

The correction has been made as requested.

8. On sheet 2, review the note under "phasing plan." It contains an incomplete sentence.

Applicant Response

The note has been revised as requested.

9. On sheet 2, the open space percentage listed in the "Overall MR-HI Site Density Tabulation" varies from the figure in the "Open Space Table." Please resolve this discrepancy.

Applicant Response

The open space percentage was removed from the "Overall MR-HI Site Density Tabulation and the Open Space Table have been revised.

10. On sheet 4, note 1 regarding the final location of uses is too subjective and should be removed. Site development will need to be in substantial conformance with the Concept Plan.

Applicant Response

The Applicant understands the concern of Staff regarding the location of the various element of the overall facility. The energy industry is currently in a rapid transition leading to greater efficiencies in power production and cost associated with the delivery to the consumer.

**LOUDOUN COUNTY DEPARTMENT OF BUILDING & DEVELOPMENT –
ENVIRONMENTAL REVIEW TEAM (WILLIAM MARSH, 10/23/2009)**

ERT offers the following comments:

1. Given the need for a level operating surface and that much of the site is located on land with slopes close to 10 percent, staff is concerned about the proximity of combined cycle support structures to areas of very steep slopes. Because Section 5-1508 of the Revised 1993 Zoning Ordinance prohibits disturbance of

very steep slopes, staff requests further verification that very steep slopes remain undisturbed.

Applicant Response

All Very Steep Slopes have been field verified. These areas are noted will be noted on the site and grading plans and will be protected during construction as stated in the Proffers.

2. Please verify the treatment approach for condensate runoff from the cooling tower, including how bio-cides and possible chlorine remnants from Town of Leesburg water will be treated. Although the application indicates that most cooling tower water is vaporized, some condensate may remain and could become runoff.

Applicant Response

The plant design includes the installation of a cooling tower blowdown water filtration system that will remove the concentrated nutrients and solids contained in the wastewater effluent. The filtered water will be returned to the cooling tower for re-use. The solids will be de-watered and sent to a landfill for final disposal. There will be no surface discharges of the cooling tower water from the plant.

3. Energy and Communication Policy 4 allows location of electric generation facilities "only where their impact on the surrounding land uses and the environment is compatible." (RGP page 2-23) Recent benthic surveys (using Save our Streams protocol) of Sycolin Creek just downstream of the Gant Road indicate that the stream is consistently at the acceptable level and frequently at the highest level for benthic scores. The applicant's packet also confirms the presence of wood turtle, a threatened species that relies on high water quality and large forest resources adjacent to the stream. Staff provides the following recommendations for water quality treatment and monitoring to help verify that runoff from the proposed use is compatible with the current benthic environment of Sycolin Creek, even if said recommendations exceed minimum state requirements for the proposed use:

- Storm runoff from all impervious surfaces on site will be treated by best management practices that achieve the highest pollutant removal efficiency rating recognized by the Department of Conservation and Recreation.

Applicant Response

The draft Proffer Statement includes a proffer for best management practices for stormwater management. Additionally, the facilities will be regulated under a VPDES permit that is issued by DEQ.

- Water flow temperature leaving the site is compatible with Sycolin Creek flow temperature throughout the year. Staff notes that a combined cycle plant in Fluvanna County achieves this standard by conveying plant runoff through two chillers before entering the stormwater pond.

Applicant Response

The Hybrid Energy facilities will have zero discharge from the operation of the facilities.

- A permanent stream monitoring gage for Sycolin Creek will be installed as part of this application. The Sycolin Creek monitoring station will record the average flow, temperature, pH, conductivity and turbidity every 15 minutes. The monitoring station will be installed prior to site development and will be maintained for 10 years following project completion, after which the County will have the option to continue with the maintenance and monitoring of the station. The monitoring station will be located in Sycolin Creek immediately downstream of the plant outfall location.

Applicant Response

The Applicant will, under the requirements of the VPDES permit be required to monitor release of stormwater from the site, including temperature, pH, turbidity, flow, etc. The upstream conditions of Sycolin Creek flowing through the Subject Property are not under the control of the Applicant.

- The flow, temperature, pH, conductivity and turbidity from the drainage leaving the plant will also be monitoring on a weekly basis.

Applicant Response

Surface water runoff from the Subject Property will be regulated under a VPDES permit issued by DEQ. The VPDES permit typically requires monitoring of flow, pH, conductivity and turbidity.

- At both locations, water quality samples will be collected and analyzed for TDS, TSS, Total Nitrogen and Total Phosphorus on a monthly basis. One half of these samples will be collected following a period where the site received at least 0.5" of rain in a 48 hours period.

Applicant Response

Surface water runoff from the Subject Property will be regulated under a VPDES permit issued by DEQ. The VPDES permit typically requires monitoring of flow, pH, conductivity and turbidity.

- Collaboration with Luck Stone may enable co-location of stream flow gage that would help meet requirements for the quarry expansion. Any Gant Lane improvements needed for construction traffic may provide an

opportunity for a geometrically controlled stream crossing making flow measurement more convenient (provided ZO Section 4-1500 is also met.)

Applicant Response

Since the Hybrid Energy facilities will have zero discharge from the operation of the facilities, water quality will not be impacted and therefore not needed. However, the Applicant will agree to a condition of approval to coordinate with Luck Stone on a location for a Luck Stone stream flow gage to be located on the Subject Property for their quarry uses.

4. Staff recommends proactive steps that isolate and shield noise sources on site such that noise levels approach RGP recommendations for ambient noise of surrounding uses, as well as meeting ZO noise requirements. Staff suggests the RGP noise policies for highway noise because power plant noise can be a persistent noise source similar to highway noise, described on page 5-45 of the RGP. Constant measurement of noise levels at strategic locations on the site is also recommended to verify noise levels, including during construction. Specific suggestions follow:

- Provide noise shields for any emergency gas release valves. A retrofit for the release valve was performed at the Fluvanna County facility after initial use. Also consider noise abatement at junctures where pressurized steam could be released into the air.

Applicant Response

The Hybrid Energy Park facilities will comply with all applicable noise standards. Major noise producing equipment such as the combustion turbines and steam turbines will utilize noise attenuating materials specifically designed to protect plant personnel and nearby areas. Exhaust stacks and similar equipment will be designed with noise attenuating silencers, baffles and shielding. Safety relief valves, which will operate very infrequently and only during upset conditions, will be equipped with silencers. The Applicant will agree to a condition of approval to conduct a noise study after the equipment selection and final plant design are completed, and noise testing after construction and commissioning of the facilities.

- Verify whether peaker and combined cycle facilities are enclosed or in open air. This is not specified with this application.

Applicant Response

Both peaker and combined cycle combustion turbines will be housed in air-tight enclosures constructed with sound deadening insulation materials (an air tight enclosure is required for the fire-suppression system). The steam turbine generator and associated equipment may be totally enclosed or non-enclosed for sound attenuation and weather protection based climate considerations,

- Consider attenuating noise sources to help achieve a 57 dB(A)Leq(h) or lower level adjacent to Philip Bolen Park, as verified by a noise model. Bolen Park includes trail use and natural areas along Sycolin Creek that meet the description of "lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose."

Applicant Response

The Hybrid Energy Park facilities will comply with all applicable noise regulations. Until the noise study is conducted, the Applicant cannot commit to achieving lower noise levels than what is required by the Zoning Ordinance.

Noise complaints have been a chronic concern for Fluvanna County facility operators, even though the special use permit was approved with noise requirements at the property lines while also having more open space than this project. The preceding recommendations are meant to apply "lessons learned" from the Fluvanna project to minimize future noise concerns.

5. Because DEQ air quality permitting requirements are less rigorous and can be completed more quickly for solar photovoltaic generation than for combined cycle generation, staff recommends deployment and activation of the 1-Megawatt solar array prior to completing construction of the combined cycle plant. Adding generating capacity as soon as allowable by the DEQ and relevant utilities will better meet RGP Energy and Communications Facilities language encouraging "timely delivery" of electricity to county residents and businesses (page 2-23.)

Applicant Response

Construction and commissioning of the solar field cannot take place until the construction of the combined cycle and peakers and switchyard equipment are completed. The solar area must remain open for a laydown area during construction of the combined cycle, peakers and switchyard.

6. Staff emphasizes the importance of mitigating wetland and stream impacts close to the impact area to help maintain water quality and flood protection functions, as well as habitat. As such, for any necessary mitigation, staff recommends that the applicant commit to prioritizing mitigation as follows: 1) onsite, 2) within the Sycolin Run Watershed within the same Planning Policy Area, 3) within the Sycolin Creek Watershed outside the Planning Policy Area, and 4) Loudoun County, subject to approval by the Corps and the Virginia Department of Environmental Quality (DEQ). This approach is consistent with Policy 23 on Page 5-11 of the RGP which states that "the County will support the federal goal of no net loss to wetlands in the County." Furthermore, the County's strategy is

to protect its existing green infrastructure elements and to recapture elements where possible [RGP, Page 6-8, Green Infrastructure Text].

Applicant Response

The proffers have been revised to include the prioritization mitigation, as recommended.

7. Staff acknowledges depictions of tree conservation areas on site but cautions that some of this area may be lost to a relocated Cochran Mill Road per the Countywide Transportation Plan. For clarity, staff recommends that the general alignment be depicted on concept development plan. Staff further recommends enlarging the tree conservation area to open space west of the power plant and draining to Sycolin Creek.

Applicant Response

For reasons stated above, the CTP alignment for Cochran Mill Road is not shown on the Concept Plan. The southwestern portion of the Subject Property has been depicted on the Concept Plan for replanting after construction has been completed. An additional area just east of the Tree Save Area #2 has also been depicted on the Concept Plan for replanting.

8. Staff recommends continued outreach to Loudoun Water, LuckStone, and to the Town of Leesburg to achieve co-location of utility lines for this project and Loudoun Water's project. Staff is also available to facilitate stakeholder meetings related to this recommendation.

Applicant Response

Acknowledged. The Applicant will continue discussions with the Town and Loudoun Water regarding the co-location of utilities.

LOUDOUN COUNTY DEPARTMENT OF PLANNING – COMMUNITY INFORMATION & OUTREACH – HISTORIC PRESERVATION (HEIDI SIEBENTRITT, 10/26/2009)

Analysis

Sites 44LD1326, 44LD1328 and 44LD1330 – Historic Lower Sycolin

As stated in the June 1, 2009 referral, archaeological sites 44LD1326, 44LD1328 (including architectural resource 053-5278), 44LD1329 and 44LD1330 (including architectural resource 053-6084) were all identified within the 264-acre Stonewall property as part of the Phase 1 archaeological survey of the 625-acre collection of properties formally known as "Creeside" conducted by Thunderbird Archeology in 2005. Sites 44LD1326 and 44LD1328 are located within the current 90.50 acre project area under consideration and Site 44LD1330 is located at the edge of the project area and may be impacted by any alteration or improvement to Gant Lane (Route 652) which would serve as the ingress/egress to the power plant.

Sites 44LD1326, 44LD1328 and 44LD1330 are the remains of historic house sites that date to the late 19th to early 20th century. These sites are believed to be the vestiges of the post Civil War, African-American settlement of Lower Sycolin. None of these sites are considered by the consultant to be eligible for listing in the National Register of Historic Places as individual historic resources. However, this area which is bounded by Cochran Mill Road, Sycolin Road and Goose Creek is important in the context of post-Civil War reconstruction and African-American history in Loudoun County. There are very few remaining buildings that mark the Lower Sycolin community and the history of Lower Sycolin has not been well researched. This is true of all 30 of the historically African-American settlements that have been identified in Loudoun County. In fact, of the eight historic African-American settlements that have been identified east of Route 15, five (Nokesville, Oak Grove, Willard, Conklin and Farmwell) have already been completely lost to newer development without the benefit of historic research and recordation.

Site 44LD1195 – Sycolin Pottery

The current application shows that the only ingress/egress for the proposed power plant will be Gant Lane. In staff's June 1, 2009 referral comments for the original Stonewall application (ZMAP 2008-0017, etal.), staff expressed concern about the location of the proposed entrances to the Stonewall property from Sycolin Road because of the proximity of the entrances and proposed berms to the Sycolin Pottery Site (44LD1195). Staff continues to have concern about the preservation of the Sycolin Pottery Site and seeks clarification on the overall plan for access to the power plant within the larger Stonewall project area. Given the significance of this site, every effort should be made to ensure that it is conserved in place and protected through easement in perpetuity. As noted in the June 1, 2009 referral, the Heritage Preservation Plan specifically states that the County's primary objective is the protection and conservation of significant archaeological resources identified during the development process (Heritage Preservation Plan, Chapter 2, *Archaeological Resources Policy* 9).

Recommendations

Due to the dearth of information about the lives of African Americans in the County, both before and after the Civil War, staff continues to recommend that the Lower Sycolin settlement, represented by the above archaeological sites, be interpreted for the general public as called for in Heritage Preservation Plan, (Chapter 2, *Archaeological Resources Policy* 4). To mitigate impacts to Sites 44LD1326, 44LD1328 and 44LD1330, staff recommends that a concise, well researched narrative history of the historically African American community of Lower Sycolin be produced for the purposes of public education. Graphics, including historic maps and historic and current photographs, should be included. The report should include a current map showing the locations of extant structures and archaeological sites thought to be associated with the community. Staff requests that three hard copies of the narrative history report and one electronic

copy be delivered to the County upon completion. As a point of departure for this research, staff can make available the *Loudoun County African-American Architectural Resources Survey*, prepared for the County by History Matters, LLC in 2004. This report references the community of Sycolin and some of the architectural resources visible from Sycolin Road which relate to that community.

Specific to site 44LD1195, staff recommends that every effort be made to conserve this significant resource in place through a protective easement in perpetuity and requests clarification on the overall plan for access to proposed and future uses on the 294-acre Stonewall property. Further, staff requests that the applicant coordinate with representatives of Loudoun Water and Luckstone Quarry on ingress/egress issues as applications are currently under review by the County for the expansion of the quarry and a water storage facility on property adjacent to the 294-acre Stonewall property.

Applicant Response

The property that is subject to the proposed applications does not include site 44LD1195. Site 44LD1195 is located along Sycolin Road and not within the Subject Property of the Hybrid Energy Park. The historic resources that are located on the Subject Property include sites 44LD13269 (within power line easement area), 44LD1328 and 053-5278. A proffer has been added to ensure that these sites are not disturbed.

The historic resources that are located on the Subject Property will not be disturbed; however, a proffer has been added for the Applicant to donate \$10,000.00 to partially fund the study and documentation of the historically African American community of Lower Sycolin. This contribution can be made to the Loudoun Museum or other designated facilitator.

Coordination with VDHR

The application materials submitted suggest that permits from the Army Corps of Engineers may be required for this project. If this project requires federal permits or will use federal funds, the development proposal will be reviewed by the Virginia Department of Historic Resources (VDHR) per Section 106 of the National Historic Preservation Act of 1966 (as amended). Impacts to resources listed in, or eligible for, the National Register of Historic Places may require mitigation per VDHR. It is important to note that VDHR will make the ultimate determination regarding National Register eligibility for all affected resources. Therefore, no action should be taken to impact or mitigate impacts to any cultural resource on the property until VDHR is consulted.

Staff recommends that the applicant consult with VDHR as early as possible to ensure that any impact mitigation proposed to be proffered to the County as part of an approval of this application is consistent with VDHR's requirements under Section 106.

Applicant Response
Acknowledged.

**LOUDOUN COUNTY DEPARTMENT OF FIRE, RESCUE AND EMERGENCY
MANAGEMENT (MARIA TAYLOR, 10/21/2009)**

After a review of the second submission, Staff has no further comments.

**LOUDOUN COUNTY PARKS, RECREATION & COMMUNITY SERVICES (BRIAN
FULLER, 11/4/2009)**

COMMENTS:

With respect to Parks, Recreation and Community Services we offer the following comments and recommendations:

1. PRCS notes that the subject properties are adjacent to parcels MCPI# 191-16-9866, 193-47-8662, and 193-48-6164, which has been designated as Philip A. Bolen Memorial Park and is currently under construction. The portions of these properties adjacent to Sycolin Creek have been designated for stream valley protection and public access to the stream channel.

Staff requests more information on how the proposed power plant and its ancillary structures will visually impact the park. Portions of the park adjacent to and within the viewshed of the power plant have been designated for passive recreation and environmental enjoyment.

Applicant Response: Photosimulations will be submitted to address the visual impacts from the surrounding areas. The Hybrid Energy Park facilities will be designed with a low profile. The tallest structures, i.e., the exhaust stacks, will be lower than the existing high voltage utility transmission lines and towers running through the area. A cooling tower utilizing high-efficiency mist eliminators is included in the design. Under most conditions, the cooling tower plume or mist is expected to be limited to within the facilities property, and the probability of any adverse local effects from the cooling tower plume is negligible. The previously referenced enclosed Air Quality Study states on Page 25, "... the probability of occurrence of any adverse effects from the cooling tower plumes on the surrounding community is negligible."

Issue Status: Staff requests copies of these photosimulations for review when they are available.

Applicant Response

The photosimulations are enclosed and include a view looking south across the Philip A. Bolen Memorial Park.

2. Staff requests more information on any potential electronic magnetic transmission (EMT) that may be emitted by the power plant and what impact it may have on the users of the adjacent park.

Applicant Response: *Unlike the existing high-voltage transmission lines, and future NOVEC substation, the Hybrid Energy Park facility is not within the Philip A. Bolen Memorial Park property and will not have an impact on the users of the park.*

Issue Status: Unresolved. The Applicant should provide any information on potential electronic magnetic transmission (EMT) that may be emitted by the power plant.

While the majority of Bolen Park (active area) is north (over the ridge) from the proposed power plant, there are three existing County-owned properties bordering the subject property for passive use as a part of Bolen Park, 193-47-8662, 193-48-6164 and 191-16-9866. The Board of Supervisors recently accepted additional properties for passive use adjacent to the subject property along Sycolin Creek, including 193-49-0957 and 193-49-2459. These parcels will provide potential stream valley access for hiking, fishing, and non-motorized watercraft.

Applicant Response

Typically, the Environmental Protection Agency uses the term Electromagnetic Field ("EMF"), so this response will be in terms of EMF. Power generating plants are not considered to be an EMF risk. EMF readings decline with distance and any reading will typically be indistinguishable at 100 feet. The Cooling Tower within the Hybrid Energy Park (which is not a source of electrical generation or transmission) is the closest component to the County owned property on the north side of Sycolin Creek and it is approximately 375 feet. Therefore, there will be no EMF impacts on the passive uses on these County-owned properties. The GEP/S Hybrid Energy Park will be in complete compliance with all federal and state EMF safety standards.

3. Staff requests more information about the potential transportation impacts of the project during and after construction, and how it may impact the adjacent park.

Applicant Response: *The transportation impacts of the Hybrid Energy Park should have no effects on the park. The park entrance is from Sycolin Road and the Hybrid Energy Park entrance will be from Gant Lane. During construction, a delivery and traffic program will be implemented in order to reduce any conflicts. The Applicant has included a proffer to address these concerns. After construction, traffic will be generated by approximately 25 employees spread over a three shift basis with routine deliveries to the Hybrid Energy Park.*

Issue Status: Unresolved. Staff did not notice the inclusion of a delivery and traffic program as stated in the Applicant's response. Please provide a copy for review with the subsequent submission. Also, the Applicant's proposed transportation proffers do not appear to adequately address the potential transportation issues associated with such a large project.

Applicant Response

A proffer has been added to address the delivery and the implementation of a traffic program during construction of the proposed Hybrid Energy Park facilities. The Hybrid Energy Park will employ approximately 25 people and will generate a total of 24 AM peak hour trips and a total of 26 PM peak hour trips and 89 average daily trips. The proposed transportation proffers adequately address the transportation improvements.

4. The current Revised Countywide Transportation Plan (CTP) proposes Cochran Mill Road and Sycolin Road to be improved, widened, or realigned through the subject property. Please revise and/or explain this discrepancy.

Applicant Response: *Gant Lane will be improved to accommodate the traffic that will be generated by the approximately 25 employees of the Hybrid Energy Park.*

Issue Status: Resolved. Staff's issue was with the original proposals for the Stonewall Secure Business Park and this applicant. Based on Applicant responses to OTS comments 4 and 5 on pages 41 and 42 of the response letter, it appears that the two applications have been separated, and the issue is no longer valid.

Applicant Response
Acknowledged.

5. Staff notes that the proposed power plant would be in close proximity to the Luck Stone Quarries. It appears that the power plant will include a lot of gas and

water piping, and Staff is concerned about how the quarry and its rock-blasting may impact the plant infrastructure.

Applicant Response: *The Hybrid Energy Park facility equipment is not expected to be prone to impact damage from any blasting operation.*

Issue Status: Resolved.

6. Staff requests more information on the proposed gas turbines proposed within the power plant and how they may impact the surrounding natural environment and public safety.

Applicant Response: *The facility will utilize four combustion turbines each rated at 197 MW at 59°F to generate power. Two turbines will operate in combined-cycle mode. These combustion turbines will drive electric generators. Hot-exhaust gases from each of the two combustion turbines will each exhaust through a Heat Recovery Steam Generator ("HRSG"), generating steam to drive a single steam turbine and electric generator, thus increasing the total power produced to approximately 586 MW at 59°F. The units will include state-of-the-art combustion technology and control equipment to limit air pollutant emissions. Natural gas is a clean burning fuel that when combusted generates minimal particulate and sulfur oxide emissions, and has the lowest Greenhouse Gas ("GHG") emission rate of all fossil fuels. Emissions of nitrogen oxides (NOx) will be limited by the use of dry low NOx combustion system and application of a selective catalytic reduction ("SCR") control system. The SCT system will rely on a controlled aqueous ammonia injection, which consists of a solution of water (75%) and ammonia (25%). Carbon monoxide (CO) emissions will be reduced by use of a CO oxidation catalyst. The use of these controls match the most stringent controls required of any combined cycle combustion turbine in the United States. The combined cycle units are expected to operate intermittently or continuously based on seasonal demand. Two of the four combustion turbines will operate as simple-cycle peaking units, only operating during periods of high demand for electric power, and be designed to limit their environmental impact. The peaking units will also utilize SCR to control NOx emissions during steady-state operating conditions.*

The enclosed report prepared by MACTEC titled "Air Quality Study of Green Energy Partners/Stonewall Solar and Natural Gas-Fired Power Plant at Leesburg, VA" dated July 1, 2009, provides additional information.

Issue Status: Resolved.

7. Staff requests more information on the noise and light glare impacts to the surrounding natural environment that are typically associated with power plants.

Applicant Response: *The Hybrid Energy Park facilities will comply with the requirements contained in the Zoning Ordinance. The major noise producing equipment, i.e., combustion turbines and steam turbine, as well as certain other equipment, will be designed with noise attenuating features as necessary to meet these requirements. Exterior lighting will be directed downward and inward to the extent feasible in order to prevent any glare on adjacent properties. In addition, the facility will be designed to enable outdoor lighting for distinct areas of the facilities to be switched off while not in use or not required for safety considerations.*

Issue Status: Unresolved. Staff acknowledges the Applicant's response to comply with the requirements contained in the Zoning Ordinance. However, staff has concerns on the potential noise levels generated from this project in terms of the combustion turbines and the steam turbine. As mentioned in Comment 3 above, a passive area is planned along Sycolin Creek adjacent to the subject property. In addition, the main portion of Bolen Park contains approximately 80 acres of passive use approximately 880 feet north of the proposed facility. Staff requests that the Applicant work closely with PRCS to assure the necessary noise abatement is met and satisfactory to PRCS.

Applicant Response

Major noise producing equipment such as the combustion turbines and steam turbine will utilize noise attenuating materials specifically designed to protect plant personnel and nearby areas. Exhaust stacks and similar equipment will be designed with noise attenuating silencers, baffles and shielding. Safety relief valves, which will operate very infrequently and only during upset conditions, will be equipped with silencers. The Applicant will agree to a condition of approval to conduct a noise study after the equipment selection and final plant design are completed, and noise testing after construction and commissioning of the facilities.

8. Staff notes that the subject properties are in close proximity to the Leesburg Regional Airport. The Applicant should demonstrate to Staff, the Planning Commission, and the Board of Supervisors how any potential impacts to the airport (e.g., noise, light glare, building heights) will be mitigated.

Applicant Response: *The proposed facility will be reviewed with the FAA for potential impacts to the Leesburg Airport Flight operations. An application has been filed with the FAA. Any required lighting or other considerations as directed by the FAA will be included in the final facility design.*

Issue Status: Resolved.

9. It appears that the SPEX Plat shows potential impacts to stream corridors, including major and minor floodplain. The Applicant should demonstrate to Staff, the Planning Commission, and the Board of Supervisors how any potential impacts to stream corridors will be mitigated, including any potential discharge into Sycolin Creek, which flows into Goose Creek (a state scenic river) and onto the Potomac River.

Applicant Response: *No processed water will be discharged onsite or into Sycolin Creek. The processed water will be recycled and reused onsite nearing zero discharge. RSCOD and the stream valley buffers are clearly delineated on the revised plans. The existing pond will be improved for stormwater management and quality. The site does not drain toward the Goose Creek reservoir.*

Issue Status: Resolved.

10. Staff requests additional, detailed information on the "unique hybrid process" of using wastewater to cool the facility that the Applicant mentions in their Statement of Justification. Please also provide information on how the Applicant proposes the wastewater will be piped and/or pumped from the Leesburg Sewage Treatment Plant to the proposed power plant.

Applicant Response: *The facility is planning to purchase approximately 5 million gallons per day of either treated effluent from the Town of Leesburg wastewater treatment facility, or water stored in reservoirs from Loudoun Water. The water will be used as cooling water in a mechanical draft evaporative cooling tower, and to produce high quality processed water for steam as part of the combined cycle unit. A portion of the cooling water from the cooling towers will be recycled and reused. Water will be pumped from the Leesburg wastewater treatment plant or from Loudoun Water by underground pipes.*

Issue Status: Staff understands and is supportive of using wastewater from the Town of Leesburg. Staff also notes the addition of using water from the Loudoun Water reservoirs, which are currently under review by the County. Staff requests

more information on how much daily water intake is required by the proposed power plant.

In addition, the Applicant states that the Leesburg wastewater will be distributed to the power plant by underground pipes. The Town of Leesburg is approved to run a sewer line through the rear of Bolen Park, bringing untreated wastewater to the treatment plant. Please provide information on the proposed location of the addition pipes that will be required to serve the proposed power plant.

Applicant Response

The amount of water required each day for the Hybrid Energy Park is function of the number of hours the facilities operate and the ambient temperature (more water is required at higher ambient temperatures). A water flow diagram to demonstrate how this process works is enclosed. The plant can utilize up to 5 MGD in the cooling process. The final location for the wastewater line for the Hybrid Energy Park will be determined by the Town.

11. Staff requests more information on the "voluntary open space" to be provided with this application. Staff requests that the Applicant consider dedicating a portion of the open space along Sycolin Creek to the County for purposes of stream valley park and/or trail.

Applicant Response: *The Hybrid Energy Park will be secured by a fence around the site and will have secured access. Due to the location of the major floodplain on the Subject Property, the Applicant will work with Staff on the location of the fence.*

Issue Status: PRCS appreciates the Applicant's willingness to work with Staff on the location of their security fencing. Staff would appreciate the opportunity to meet with the Applicant, and discuss an opportunity to dedicate approximately 8.5 acres of floodplain delineated along the northern property line adjacent to Sycolin Creek to the County for enhancement of the existing passive use on the south side of Cochran Mill Road. This would also include a commitment within the Proffers.

Applicant Response

The Applicant will agree to granting an easement along the north side of Sycolin Creek to the County for passive park uses. The easement area shall be located outside of the security fencing. A proffer has been added to grant an easement for passive uses.

12. Staff notes that the proposed power plant is in close proximity to the NOVEC power substation recently approved on the Philip A. Bolen Memorial Park site. Staff requests more information on how this facility may impact or augment the NOVEC substation.

Applicant Response: At the present time, the proposed NOVEC substation in the Philip A. Bolen Memorial Park is not expected to impact the proposed facility. The Applicant has met with NOVEC to determine if there might be mutually beneficial design considerations.

Issue Status: Resolved.

13. Please revise Sheets 1, 2, 3, 5 and 6 of the SPEX Plat to identify and label Philip A. Bolen Memorial Park.

Applicant Response: The plan sheets have been revised to identify and label the Philip A. Bolen Memorial Park as requested.

Issue Status: Resolved.

CONCLUSION:

PRCS still has several outstanding issues, specifically Comments 1, 2, 3, 7, 10, and 11, which need to be addressed.

LOUDOUN WATER (JULIE ATWELL, 11/2/2009)

Loudoun Water has reviewed the referenced application and has no objection to its approval.

Public water and sanitary sewer service would be contingent upon the developer's compliance with our *Statement of Policy; Rate, Rules and Regulations*; and Design Standards.

Applicant Response
Acknowledged.

TOWN OF LEESBURG (SCOTT PARKER, 11/2/2009)

Recommendation: The Town believes that through this second submittal application we are able to garner a positive recommendation. This recommendation is based on the information we have received to date, and there are some issues that we would ask be addressed through further review of the project. The issues that the Town feels need to be addressed are indicated below.

Land Use:

The majority of the site of the proposed zoning amendment, special exception and commission permit lies beyond the Leesburg joint planning area (referred to in the Town Plan as the UGA/JLMA). Nevertheless, the site is immediately adjacent to the joint planning area, and the proposed development could have substantial impacts on the area and the Town.

Conclusions:

- 1. Transition Policy Area.** Leesburg's planning has relied on development to be in accordance with the Revised General Plan's Transition Policy Area designation for the area south of the Town. The proposal does not appear to comply with the policies for the Transition Policy Area. An intensive, industrial use is not consistent with the clusters, rural villages, or nonresidential uses envisioned for the Transition Policy Area (Revised General Plan, Transition Policy Area, Community Design policies 2 and 15, pp. 8-6 and 8-7); and it seems far from the "more rural character" (RGP, p. 8-5) envisioned for the Lower Sycolin Subarea of the Transition Policy Area.

The applicant's response to our comments on the first submission argues that the environmental aspects of the development make it consistent with the Transition Policy Area. However, while the environmental protections that are proposed suggest that the development will minimize environmental impacts, those protections would be expected of any development in the Transition Policy Area and do not make the case that the proposed industrial use is the type of development that is consistent with the land use policies for that part of the county.

It would appear reasonable to consider the applications if the applicant can make an adequate case that this site is uniquely suitable for this use and that a suitable site in the Suburban Policy Area does not exist (perhaps even if the impacts of the proposal somewhat exceed those outlined in the Revised General Plan). For example, the application relies heavily on the presence of gas and electric distribution lines on the site. However, gas and electricity are available in many places in the Suburban Policy Area, and the justification statement

would be stronger if it explained why those places are not appropriate for a proposed energy plant. Nevertheless, such a discussion would only suggest that an amendment to the Revised General Plan's designation for the site should be considered, but not that the applications in fact are consistent with the policies for the Transition Policy Area.

Comprehensive planning staff agrees with the applicant that natural gas is better for the environment than other fossil fuels (it produces the least carbon dioxide while producing more energy); that the solar array is better than fossil fuels (it is a renewable source that does not produce green house gases); that the combined cycle technology is better than single cycle (it is more efficient and therefore emits less green house gasses to produce the same amount of electricity); and that distributed electric generators are better than large, central ones (less electricity is lost during transmission because of shorter distances between the generator and users). If the proposed energy plant can replace an existing coal plant, as suggested in the statement of justification, it will have even greater environmental benefits. The proposed energy plant thus helps to achieve the energy savings and air quality benefits called for in objective 6 of the natural resources element of the Town Plan. The proposed facility also is consistent with several recommendations of the Virginia Energy Plan, including increasing in-state generation of energy and using a heat recovery system.

In order to increase the environmental benefits of the proposed energy plant and business park, the applicant should consider agreeing to compliance with the Gas Star program (reduce natural gas leakage), Leadership in Energy and Environmental Design (LEED) for all buildings on the site, and Energy Star for all appliances and equipment, as well as developing a transportation demand management program for all occupants of the site and encouraging energy efficient vehicles for businesses locating in the park.

Applicant Response

The Applicant has included a proffer to LEED certification for the Guard House/Visitor Center Building and the Administration Building.

2. **Transportation.** The Town Plan's Road Network Policy Map (which coincides with the Revised Countywide Transportation Plan) calls for Cochran Mill Road (Rt 653) to be a 4-lane, undivided through collector. According to the Town Plan, Cochran Mill Road should be relocated out of the floodplain of Sycolin Creek by crossing Sycolin Creek and traversing the site before intersecting Sycolin Road. The proposed plan does not accommodate this road or suggest a feasible alternative location.

Applicant Response

The proposed alignment for Cochran Mill Road as currently shown in the CTP is not shown on the Concept Plan, as the adjacent land uses are changing and a four-lane section of Cochran Mill Road is no longer needed. Crosstrail Boulevard, a six-lane road when constructed will accommodate the anticipated

traffic between Route 7 and Sycolin Road.

Traffic and Transportation:

The proposed facility would accommodate 25 full time employees over a three shift work day. The study area intersections of Cochran Mill Road/Gant Lane and Cochran Mill Road/Sycolin Road will operate with levels of service "B" or better during 2014 build-out conditions. Trips generated by the proposed Hybrid Energy Park will have a minimal impact on the study area network and can be accommodated by the existing infrastructure.

Also, it is recommended that Cochran Mill Road and Gant Lane be reconstructed to meet current VDOT standards as the current roads are not constructed to support the proposed truck traffic.

Applicant Response

Gant Lane is the primary access to the Hybrid Energy Park and Loudoun Water's proposed water treatment plant. The Applicant has included the improvements to Gant Lane along the Subject Property frontage. All required improvements are required to meet VDOT current construction standards.

Utilities:

One of the main issues surrounding this application is that of the statements related to the Town of Leesburg providing effluent from our treatment facility to be utilized by the power facility.

Any action regarding this part of the proposal must be endorsed by the Town Council.

Applicant Response

Acknowledged.

Conclusions:

1. It is the intent of the applicant to utilize treated effluent from the Town's Water Pollution Control Plant (WPCP) for the steam generation. We recommend the applicant begin their negotiations with the Town Council to make sure the feasibility of this proposal and the concurrence of Town Council in granting this request.

Applicant Response

Acknowledged

2. The use of Town's effluent for the generation of steam will produce residual discharges that are not desirable for discharge to the Town's treatment works and must therefore be treated on site for reuse or discharge to the treatment works. A paragraph explaining this procedure needs to be added to the documents.

Applicant Response

The Hybrid Energy Park design includes the installation of a cooling tower blowdown water filtration system that will remove the concentrated nutrients and solids contained in the wastewater effluent. The filtered water will be returned to the cooling tower for re-use. The solids will be de-watered and sent to a landfill for final disposal. The results are a 97 percent reduction of total phosphorus, total nitrogen and dissolved solids from the treated effluent supplied to the Hybrid Energy Park from the Town. The effluent is currently being piped directly into the Potomac River.

3. Does the use of treated wastewater in anyway influence or impact the air quality report presented with this application? This report does not discuss this matter in detail.

Applicant Response

Although the water used for cooling contains more dissolved solids since it comes from a wastewater treatment plant, the particulate emissions from the cooling tower are low. The sizes of water droplets (60 microns or less) are also small due to the use of highly efficient mist eliminators. The release from the operation of cooling towers results from cooling tower drift. The drift is fine water droplets that pass through the cooling tower's drift (mist) eliminators which are necessary to minimize water losses. It also serves to abate visible plumes. The new energy plant's cooling tower will be controlled by highly efficient drift eliminators with a design release rate of 0.0005 % of the water recirculation rate. Drift eliminators used by other recently permitted cooling towers found a 0.0005 % efficient eliminator represents the most stringent control applied at cooling towers for new energy plants. The results are a 97% reduction of total phosphorus, total nitrogen and dissolved solids from the treated effluent supplied to the energy plant from the Town of Leesburg that is currently being piped directly into the Potomac River. As discussed in our meeting, the blow-down residue from the cleaning of the cooling tower will be dried and disposed in a landfill and is not planned to be utilized for land application.

The cooling tower chemicals to be used will include a biocide to prevent biological growth, defoaming and dispersing agents and a corrosion inhibitor. The chemicals are in the re-circulating cooling water and are maintained at the part per million levels. These chemicals would only be released in the cooling tower drift resulting in a negligible emissions rate due to the low chemical concentrations and the cooling tower drift control design. The new energy plant's cooling tower drift will be controlled by highly efficient drift eliminators with a design release rate of 0.0005 percent of the water recirculation rate. The exact chemicals and amounts will be determined based on the final analysis of the treated effluent supplied by the Town of Leesburg that will be utilized.

Enclosed is an updated Air Quality Study prepared by MACTEC Engineering and Consulting.

4. The pipeline routes for transporting the treated waste water from Town's facility has not been identified as part of this application.

Applicant Response

This issue addressed above.

5. Can the current site layout accommodate the provision for a treatment facility indicated under item 2?

Applicant Response

The site layout has been revised to show the size and location of the water treatment equipment. See Sheet 4 of 4, number 18 in the Key.

Environmental:

On April 28, staff provided comments on the first submission of this proposal. The comments were generally supportive of the proposal based on the overall environmental benefit of the proposed combined cycle natural gas power plant which provides electricity at nearly twice the efficiency of coal powered plants while producing less than one-half of the carbon dioxide, and much smaller fractions of other greenhouse gases (NO_x and SO₂). While generally supportive of the proposal, questions were raised related to issues such as air and water discharges, lighting, and noise. The applicant's second submission addresses most of these issues to the extent that they can be at this stage although some questions remain. Staff recommends the applicant clarify the following issues:

1. The application states that the facility will use up to 5 MGD of treated water from the Leesburg Water Pollution Control Facility. The statement of justification says that up to 1 MGD of the water will be recaptured and reused in the process and that some of the other steam may be used for combined heat and power. Combined heat and power is wise use of resources as it puts to use what would otherwise be considered "waste" steam for heating and cooling. Under what conditions will the applicant implement a combined heat and power system? If not implemented, what happens to the other 4MGD of water used in the process? Will it be released as waste water vapor through the emission stacks? I suggest the applicant provide a water use budget diagram that shows where the different portions of the used water goes. Also, I recommend that the applicant work with the County to implement a combined heat and power system.

Applicant Response

Combined heat and power is not being proposed with the Hybrid Energy Park applications, but with power generation facility in this proximity combined heat and cooling associated with this facility can be facilitated with a proximate reliable user. The Hybrid Energy Park will use up to approximately 5M GPD of effluent wastewater for cooling towers and for various plant process water uses. The amount required each day is a function of the number of hours the facility operates and the ambient temperature. Approximately 4M GPD will be lost through evaporation from the cooling towers, and a small portion through the exhaust stacks. A water flow diagram is attached.

2. The application states that the facility will “eliminate 56 tons of nutrients and solids from the Potomac River and ultimately the Chesapeake Bay” through use of Leesburg’s treated wastewater. Please explain the process by which these nutrients are captured or converted at the electric plant and what happens to them. Are they discharged into the air? Transported to a landfill?

Applicant Response

The plant design includes the installation of a cooling tower blowdown water filtration system that will remove the concentrated nutrients and solids contained in the wastewater effluent. The filtered water will be returned to the cooling tower for re-use. The solids will be de-watered and sent to a landfill for final disposal. This process results in a 97 percent reduction of total phosphorus, total nitrogen and dissolved solids from the treated effluent that would be supplied to the Hybrid Energy Park from the Town.

Summary:

Town staff is generally supportive of this application. However, based on potential impacts the facility may have on Leesburg residents, we would request that County staff address the following issues, as outlined within this memo:

1. Provide an explanation/analysis of the project’s consistency with the Revised General Plan.
2. Address the relocation of Cochran Mill Road.
3. Establish a requirement that Cochran Mill Road and Gant Lane be built to VDOT specs to handle the volume of truck traffic expected.
4. Address the items from Utilities related to the need for Town effluent.

5. Address all outstanding environmental issues as outlined herein.

In addition to the above items, it should be noted that while the Air Impact study indicates that the project meets or exceeds all applicable federal air quality standards, it is still a concern for Town of Leesburg residents as to the impact this plant will have. We encourage County environmental staff to be diligent in its review and approval of this facility, and ensure that the information that has been provided regarding environmental impacts is thoroughly vetted in order to ensure the safety of all residents in the vicinity of this proposed facility.

On behalf of the Applicant, we appreciate Staff's comments and your assistance in addressing the issues contained in the referrals. With this letter and enclosures, many of the issues have been addressed and we look forward to continuing to meet with Staff to work out additional issues prior to the Planning Commission public hearing scheduled for December 17, 2009.

If you have any questions or need additional information, please do not hesitate to call me.

Sincerely,

WALSH, COLUCCI, LUBELEY, EMRICH &
WALSH, P.C.

Kimberlee Welsh Cummings

Kimberlee Welsh Cummings, AICP
Land Use Planner

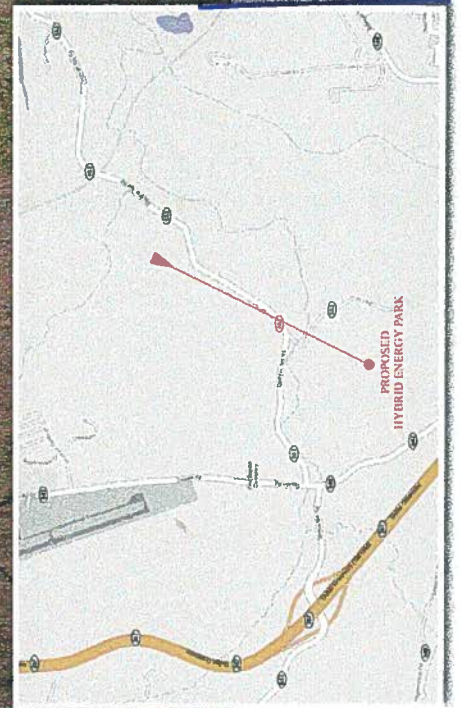
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Enclosures

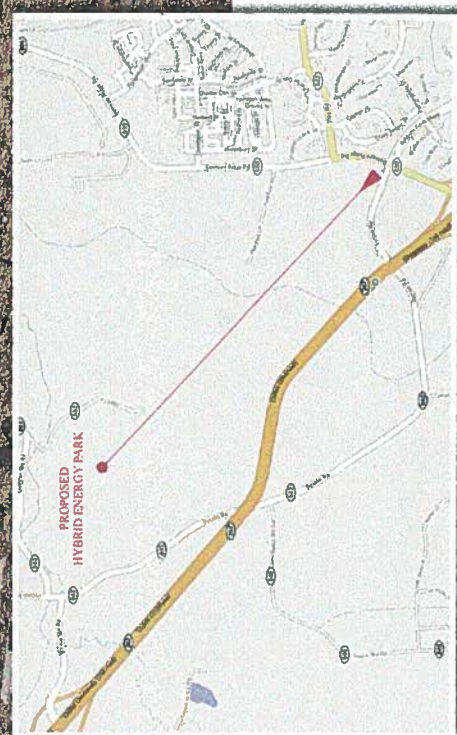
cc: John A. Andrews II, President, Andrews Community Investment Corporation, with enclosures
Jack Andrews, Green Energy Partners/Stonewall LLC, enclosures by email
Jordan Dimoff, Vice President, Andrews Community Investment Corporation, with enclosures
Robert W. Woodruff, P.E., Chief Operating Officer, William H. Gordon Associates, Inc., enclosures by email
Linda Erbs, Senior Associate, Director of Loudoun Office, William H. Gordon Associates, Inc., enclosures by email
John Callow, Vice President, Transportation Discipline Leader, Patton Harris Rust & Associates, Inc., enclosures by email

Ken Niemann, President, North Ridge Resources LLC, enclosures by email
Ronald Figg, MPR Associates Inc., enclosures by email
Michael E. Lukey, Vice President, MACTEC, enclosures by email
J. Randall Minchew, Managing Shareholder, Walsh, Colucci, Lubeley, Emrich &
Walsh, P.C., without enclosures



GREEN ENERGY PARTNERS
PROPOSED STONEWALL
HYBRID ENERGY PARK

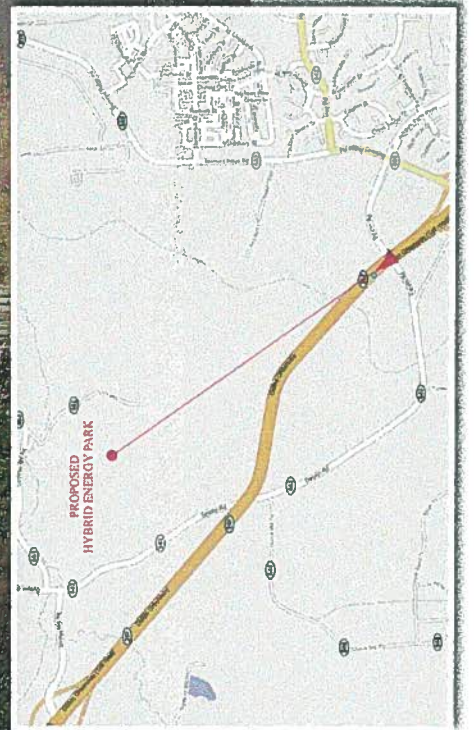




GREEN ENERGY PARTNERS
PROPOSED STONEWALL
HYBRID ENERGY PARK



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